SUMMARY OF
BASIC MISSION AVIONICS SYSTEMS TRAINER (MAST)

June 1996 — Device 10H1A

NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION ORLANDO, FLORIDA

TRAINING CATEGORY:

Electronic Warfare Training

ORIGINATING AGENCY:

NAVAIR

SECURITY CLASSIFICATION OF DEVICE:

Unclassified. Secret only when used with operational software.

PURPOSE OF DEVICE:

To provide training for entry level enlisted EW operations and Naval Flight Officers assigned to VQ-1, VQ-2, VQ-5, VQ-6, VPU-1, VPU-2, and VAQ/VMAQ squadrons.

INTENDED USE:

The Device 10H1A will provide training for entry level EW operators and Naval Flight Officers. Training is required to develop practical skills in electromagnetic signal emissions. The required skills include: search techniques, signal recognition and analysis, and crew coordination.

FUNCTIONAL DESCRIPTION:

Device 10H1A is a generic EW operator training device comprised of two instructor station, twelve student stations, a threat signal simulator subsystem interconnected by a network hub via an ethernet local area network and intercom system for audio and voice communications. Operational capabilities and instructional/simulation features are provided primarily through computer hardware and associated software, functionally distributed among the four basic building block elements. Instructor/trainee voice communications and signal audio distribution for student monitoring, recognition, and analysis training are facilitated through a voice intercom system.

Each student station includes an IBM compatible personal computer system and a 21" 1280 x 1024 resolution monitor with resident software. This basic operating system is Microsoft Windows NT plus emulation unique software which provides the following: AN/ALR-81 narrow band receiver, ALR-82

wide band (CMX) receiver, automatic ESM receiver, IP-1159 pulse analyzer, pre-amp control, OE-320 DF and antenna control, XYZ DF display, digital communication interface (CDI), video select control emulation software, a ULQ-16 Pulse Analyzer System (provided as GFE), and an intercom system equipped with a microphone and headsets. A Sun Workstation and software emulate the EP-3E and ES-3A mission software.

The instructor stations include an IBM compatible personal computer (dual pentium) and a 21" 1280 X 1024 resolution monitor with Microsoft Windows NT Advanced Server as the basic operating system. A master select control unit with microphone and headset makes up the interface to the intercom system. The Instructor Station training engine software is comprised of the Excalibur threat Simulator Scenario generation and operation. The Instructor Station software is comprised of the Excalibur Threat Simulator Scenario generation and operation. This provides the control features necessary to develop, store, retrieve, review, edit/modify, select, load and run exercise scenarios through cooperative interaction with the Threat Signal Simulator subsystem and Student Stations. The Sun Sparc Workstations provide the instructor control over the mission unique software. The intercom system provides the necessary control/selections for the instructor to establish voice networks, audio monitoring, and student conferencing.

The Threat Signal Simulator consists of a single cabinet containing all hardware necessary to produce and generate authentic real-time threat signals, video and audio, representative of intercepted signals including effects of the modeled/simulated equipment.

Digital data communications are provided through an Ethernet LAN employing a 24 Port Network Hub and a 9 Port Mini Hub. This provides the necessary digital link between the Student Stations, Instructor Stations, and Threat Simulator and Sun Sparc Stations.

The Intercom System provides the voice network to enable communications between the instructors and students. It serves as the distribution media for signal audio from the Threat Signal Simulator to the Student Stations based on the individual trainee actions via the emulated DCI at their respective station. The system allows for establishing voice networks for team training and provides the instructor signal audio monitoring of selected student stations.

PHYSICAL INFORMATION:

The Device 10H1A will reside in a room that has a minimum of 980.16 square feet of floor space. The room must be at least 20'5" wide by 48 long.

EQUIPMENT REQUIRED (Not supplied):

None

POWER REQUIREMENTS:

Total trainer requirements: 120 vac, 60 Hz, 86.67 amps, 10.336 kw, 35,274 Btu/hr

PUBLICATIONS FURNISHED:

System Interface Manual for Basic Mission Avionics Systems Trainer (MAST) Device 10H1A, NAWCTSD P-7236 (U)

Training System Utilization Handbook for Basic Mission Avionics Systems Trainer (MAST) Device 10H1A, NAWCTSD P-7238 (U)

PERSONNEL:

Instructor: Fleet experience in electronic warfare and intelligence

Student: Entry level EW operator

Maintenance: Three year technician

CONTRACT IDENTIFICATION:

Developed by Electronic Warfare Associates, Inc., Orlando, Florida under Contract No. N68786-89-C-6145.